

## REMARKS/ARGUMENT

### Description of Amendments

Applicant has amended claims 1, 3, 5, 24, 25, and 27-32; added claims 36 and 37; and cancelled claims 2, 10, 26, and 33-35. No new matter has been added. As amended, claims 1, 3-5, 7-9, 24, 25, 27-32, 36, and 37 are now pending and under examination.

The amendments to claim 1 are supported by the original specification at page 24, line 3, to page 25, line 4; and page 14, line 10, to page 25, line 12; and by Figures 1 and 2.

The amendments to claim 24 are supported by the original specification at page 24, line 3, to page 25, line 4; and original claims 30 and 31; and by Figure 1.

New claims 36 and 37 are supported by Examples 3-5 of the specification.

### Interview Summary

Applicant and his counsel greatly appreciate the courtesy extended by Examiner Guill during the course of an interview conducted on October 19, 2006.

In the interview, Applicant and his counsel discussed with the Examiner the differences between the claimed invention and the cited art.

### Objection to the Claims

The objection to claims 1 and 32-35 has been rendered moot by the amendments to claims 1 and 32 and by the cancellation of claims 33-35.

### Rejections under 35 U.S.C. §103(a)

Claims 1-3, 10, 24, 26, and 27 were rejected under 35 U.S.C. §103(a) as being unpatentable over *Altman* (Altman, Kaeli, Sheffer; "Welcome to the opportunities of Binary Translation", March 2000, IEEE Computer) in view of *Mattson* (U.S. Patent 6,115,809). Claims 5, 13, and 33 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Altman* in view of *Mattson*, and further in view of *Kistler* (Thomas Kistler et al.; "Continuous Program Optimization: Design and Evaluation", June 2001, IEEE Transactions on

Computers). Claims 7 and 34 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Altman* in view of *Mattson*, and further in view of *Smith* (U.S. Patent 4,370,711). Claims 8, 9, 28-30, and 35 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Altman* in view of *Mattson*, and further in view of *Paterson* (David A. Patterson et al.; “Computer Architecture A Quantitative Approach”, second edition, 1996, Morgan Kaufmann Publishers). Claims 25 and 31 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Altman* in view of *Mattson*, and further in view of *Conte* (Conte, Patel, Cox; “Using Branch Handling Hardware to Support Profile-Driven Optimization”, 1994, Proceedings of the 1994 27<sup>th</sup> Annual International Symposium on Microarchitecture).

The rejection of claims 2, 10, 26, and 33-35. The cancellation of claims 2, 10, 26, and 33-35 renders their rejection moot.

The rejection of independent claims 1 and 24. Applicant respectfully disagrees with the Examiner’s rejection of independent claims 1 and 24, because *Altman* and *Mattson* do not disclose several limitations of claim 1 or 24. For example, *Altman* and *Mattson* do not disclose the limitation of “producing a second set of one or more emulated instructions by modifying at least a parameter of one instruction of the first set of one or more emulated instructions in response to said first dynamic execution information” produced “in response to executing the first set of one or more emulated instructions.” The Examiner contended that the last paragraph in column 1 on page 41 of *Altman*, which begins with “ISA remapping...,” discloses modifying instruction parameters. However, Applicant’s review shows that this paragraph does not specifically disclose producing a second set of one or more emulated instructions by modifying at least a parameter of one instruction of the first set of one or more emulated instructions in response to said first dynamic execution information. This paragraph of *Altman* merely discloses remapping register overlaps in a legacy ISA to a target ISA. This, however, does not necessarily mean that the remapping involves producing a second set of one or more emulated instructions by modifying at least a parameter of one instruction of the first set of one or more emulated instructions. There is no disclosure in *Altman* that “remapping” involves emulation, an *emulated* instruction, or modification of an *emulated* instruction. It is mostly likely that ISA remapping merely involves *compilation* of a legacy ISA into a target ISA.

For another example, *Altman* discloses only software emulation (see, for example, page 40, column 2, lines 3-7). Therefore, *Altman* does not disclose the limitations of “obtaining a first set of one or more emulated instructions derived from an original set of one or more instructions using the *hardware* emulation” (claim 1), “changing the *hardware* emulation dynamically” (claim 1), “a *hardware* emulation code generator” (claim 24), and “means for responding to the dynamic execution information and for changing the *hardware* emulation code generator dynamically” (claim 24). The Examiner cited certain sections of *Mattson* as disclosing changing computer hardware. According to Applicant’s review, however, the cited sections of *Mattson* discuss only certain types of branching operations, but do not disclose how the branch operations are achieved, i.e., with software or hardware. Furthermore, claims 1 and 24, as amended, now discloses changing hardware *emulation*. The cited sections of *Mattson* do not disclose changing hardware *emulation*.

In the interview, the Examiner stated that he was taught during PTO training that software and hardware are the same. Applicant’s counsel, however, could not find any legal authority that supports such a sweeping conclusion. If the claims are rejected on this ground, Applicant respectfully requests that legal authority be provided that supports this conclusion.

In view of the above discussions, Applicant respectfully submits that each of independent claims 1 and 24 is patentable because each recites limitations not taught by the cited art.

The rejection of dependent claims 3-5, 7-9, 25, and 27-31. Each of dependent claims 3-5, 7-9, 25, and 27-31 is patentable because it depends from a patentable independent claim (i.e., claim 1 or 24).

New claims 36 and 37. Each of new claims 36 and 37 is patentable because it depends from a patentable independent claim (i.e., claim 1 or 24).

Application No. 10/029,497  
Amendment dated November 13, 2006  
Reply to Office action of July 12, 2006

In light of the foregoing remarks, this application is considered to be in condition for allowance, and early passage of this case to issue is respectfully requested. Applicant petitions for a one-month extension of time, and please charge any deficiency in fees or credit any overpayments to Deposit Account No. 07-1850.

Respectfully submitted,

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